Remarks on the tendency to Calculous Diseases; with Observations on the Nature of urinary Concretions, and an Analysis of a large Part of the Collection belonging to the Norfolk and Norwich Hospital. *By* John Yelloly, *M.D. F.R.S. &c.* Read June 19, 1828. [*Phil. Trans.* 1829, *p.* 55.]

The account given by the author of his examination of the urinary calculi contained in the Norwich Collection, the total number of which is 649, relates more particularly to those which have been either purposely divided, or accidentally broken in the extraction, and which amount all together to about 330. He gives a tabular view of the results of his analyses of these calculi, and states, in the order of their occurrence from the centre, the consecutive deposits of the different materials of which they are composed. About one half of the specimens consist only of one description of substance, and the remainder are formed of alternating layers, more or less numerous, of most of the substances which enter into the composition of human urinary calculi. The distinction between the lithic acid and lithate of ammonia, though generally recognised abroad, was scarcely attended to in this country, until noticed by Dr. Prout. The lithic calculi form, as is usual, the most numerous class of concretions in the Norwich collection, where they amount to nearly a third of the whole number; and if the number of those containing either lithic acid, or lithate of ammonia, as a nucleus, be taken into account, it will appear, as already observed by Dr. Prout, that not less than two thirds of all urinary calculi either consist of the lithates, or have those substances as their nuclei; whence it may be inferred, that a large proportion of them probably owe their existence to the previous formation of such a nucleus. The deposition of the phosphates is not followed by that of the other materials. The oxalate of lime is the only substance entering into the composition of urinary calculi, which is ever found in the form of distinct and specific crystallization, and it then forms what is called the Mulberry calculus. The author is led from his observations to suspect that carbonate of lime, although rarely found in a separate form in calculi, is not an unfrequent concomitant of phosphate of lime: with the assistance of Dr. Prout and Mr. Faraday, he ascertained the presence of carbonate of lime in some of the specimens which were not previously supposed to contain it. This result was also confirmed by the analysis of several specimens of calculi from the collection in the Hunterian Museum, and also from the Museum of Guy's Hospital, which he was permitted to examine.

The author is in hopes of being able to make some additions to this communication, if he can obtain permission to divide some of the remaining calculi in the Norwich Collection, so as to give to the Society the result of the whole analysis.